

Category: Logging

California's logging off-road emissions inventory is an estimate of the amount and types of pollutants emitted from thousands of pieces of equipment used in the logging industry. These equipment types comprise of 2-stroke and 4- stroke gasoline and diesel engines.

The top 3 most popular equipment types in this category are:

<u>Equipment Type</u>	<u>Fuel Type</u>	<u>2000 Population</u>
Shredder	G4	7305
Chainsaw	G2	4656
Fellers/ Bunchers	D	1909

Emissions Inventory:

As with other OFFROAD equipment types, the emissions inventory for the agricultural category is calculated as the product of the emission rate (grams per horsepower-hour), engine population, and activity (hours per year) in annual average use hours.

[Calculating Emissions Inventory \(PDF Format\)](#)

For the current emissions inventory (tons/day):

[Air Resources Board Almanac](#)

Input Data Sources:

The input factors used by the OFFROAD Model come from various data sources:

<u>Input Factor</u>	<u>Source of Data (Gas & Diesel)</u>
Population (base year 2000)	Power Systems Research (1996)
Useful Life	Power Systems Research (1996)
Activity (hr/yr)	Power Systems Research (1996)
Average horsepower	Power Systems Research (1996)
Load factor	Power Systems Research (1996)
Allocation factor	Energy & Environmental Analysis (EEA) (1995)
Growth factor	CA State Board of Equalization Timber Harvest (1997)
Survival rate	Power Systems Research (1996)

For more additional background information on the input factors used by the OFFROAD Model: [\(Document Link\)](#)

For tables of input data for logging equipment: [\(Document Link\)](#)

Adopted Regulations for Logging:

2004: *(Reflected in OFFROAD Model)* Board approved amendment to California's existing off-road diesel regulations to harmonize with USEPA Tier 4 regulation (40 CFR 1039). [\(Document Link\)](#)

2002: *(Reflected in OFFROAD Model)* EPA regulations on large spark-ignited engines. [\(Document Link\)](#)

2000: *(Reflected in OFFROAD Model)* Board approved the emissions inventory for off-road large CI engines (≥ 25 hp) from the OFFROAD Model. [\(Document Link\)](#)

1998: *(Reflected in OFFROAD Model)* Board approved the off-road large spark-ignited engines (≥ 25 hp) regulations. [\(Document Link\)](#)

1998: *(Reflected in OFFROAD Model)* Board approved the emissions inventory for off-road large spark-ignited engines (≥ 25 hp) from the OFFROAD Model. [\(Document Link\)](#)

Future Improvements to the Logging Category:

The emissions inventory from the OFFROAD Model strives to accurately represent the 'real-world' as accurately as possible. Therefore, the methodologies and data sources are constantly re-evaluated and updated where applicable. The following items are future improvements for the logging category:

- Update population and activity values as new data becomes available
- Revise growth factors using REMI employment data (2001)
- Allocate equipment from the county down to the neighborhood level (GIS)